

Atty. Dkt. No. 074022-3302

REMARKS

Claims 1-6, 18, 19, 23, 25, 26, 36-39, 41, 43, 44, and 46 have been amended for the convenience of the Examiner to assist in understanding the invention. No amendments have been made to obviate prior art or to overcome any rejections. Support for the amendments is found generally throughout the application. For example, the specification teaches a device with a support that contains channels or the support is porous and an optically functional layer positioned on the support, the optically functional layer containing channels which are connected with the channels of the support or are connected to pores of the porous support. Basis for such teaching is found in FIG. 2 and the associated description in the specification at page 5, line 23 to page 6, line 27. FIG. 2 depicts the support in cross-section clearly showing channels in the optically functional layer that fluidly connect with channels in the underlying support (Fig. 2A). Fluid connection of channels in the optically functional layer to pores in the support is shown in FIG. 2B and supported by description on page 5 and 6 ("open to fluid flow"). FIG. 2C and supporting text teach additional embodiments where particles that comprise the optically functional layer form channels that connect to the channels or pores in the support.

The upper layers, which generally comprise a support (depending on the particular embodiment) as depicted in FIG. 1, have been left out of FIG. 2 for convenience. The specification teaches that these additional layers are applied over the optically functional layer so as to maintain the channels of the optically functional layer and provide fluid flow via channels in the uppermost layer (i.e. the layer that binds analyte) to channels that run to the support or that run to pores in the support. Basis for this view is found though a combination of teachings *inter alia* as cited below:

"The layers of the present device which, when exposed to solution or gas, allow analyte to move to the surface through mass transport/laminar flow. Mass transport, to the surface will be governed by the number and distribution of channels, sample parameters, and laminar flow created on or within the layers of the device."

Atty. Dkt. No. 074022-3302

Page 7, lines 23-28. Passage clearly teaches that fluid flows to the surface (i.e. analyte binding layer) via channels present in the layers.

"In distinction, in the present invention the channels do not exceed 15% of the total surface area of any layer and are discrete with no interconnections producing a flow that is laminar in character."

Page 24, lines 18-22. Passage clearly states that channels run directly from one layer to the next since there are "no interconnections." The "laminar flow" as taught by the specification is achieved by using non-interconnected (non-tortuous) channels with particular characteristics (e.g. less than 15% of total surface area).

"Binding is confined to the surface of the device which contains an analyte specific binding layer. Electron microscopy suggests that no material binds near the channels."

Page 8, lines 9-12. Passage clearly implies that the channels are found in the upper "specific binding layer" since it refers to the absence of analyte binding in the vicinity of the channels.

"By "through layers of the device" is meant both flow of the sample through the layers from the surface of the device toward the support and flow across the surface of any layer of the device."

Page 11, lines 3-6. Passage clearly implies a flow from the top (analyte binding layer) to bottom (support). Such flow in conjunction with text cited above clearly is accomplished via channels from the uppermost layer (analyte binding layer) to the support.

New claims 51-54 and 61 find basis in the above cited support. New claims 55-60 find basis in the specification, for example, at page 24, lines 18-22 (quoted above). Accordingly, the amendments and the new claims raise no issue of new matter.

Atty. Dkt. No. 074022-3302

New Matter Rejection

The Examiner asserts that the language in claims 1-12, 18-34 and 36-38 that the channels be "continuous" though each of the claimed layers, lacks written description support. The rejection is respectfully traversed.

It is respectfully submitted that the rejection is moot as to claims 20-22, which have been cancelled. It is also respectfully submitted that the rejection has been rendered moot with respect to the amended claims. Accordingly, although Applicant does not agree with the Examiner for reasons already of record, the rejection has been rendered moot for all claims and should be withdrawn.

Indefiniteness Rejection

The Examiner asserts that the language in claims 1-12, 18-34 and 36-50 is indefinite because the relationship between the layers is not clear. It is respectfully submitted that for each claim, the relationship of each layer to at least one other layer is clearly specified. Applicant has not amended claim 40, also rejected, however, it is respectfully submitted that no such indefiniteness has been pointed out and no such indefiniteness exists. The Examiner is respectfully urged to point out the particular language of claim 40 that is allegedly indefinite should the rejection be maintained. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection for indefiniteness with respect to all the claims.

Obviousness-type Double Patenting

The Examiner provisionally rejects claims 1, 2, 5-12, 23-24, 26-34, and 36-50 under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 51-52, 54-55, 57-63, 66-68, 70-71, 73-79, and 82 of copending Application No. 09/675,518. As stated previously, Applicant will submit a terminal disclaimer if the claims in the copending case are advanced to issue in their present form, and the claims in the present are otherwise allowable in their present form.

Atty. Dkt. No. 074022-3302

Conclusion

Applicant believes that the present application is now in condition for allowance.
Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-0872. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-0872. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-0872.

Respectfully submitted,

Date September 16, 2004

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